Meteorological Monitoring to Improve Forecasting

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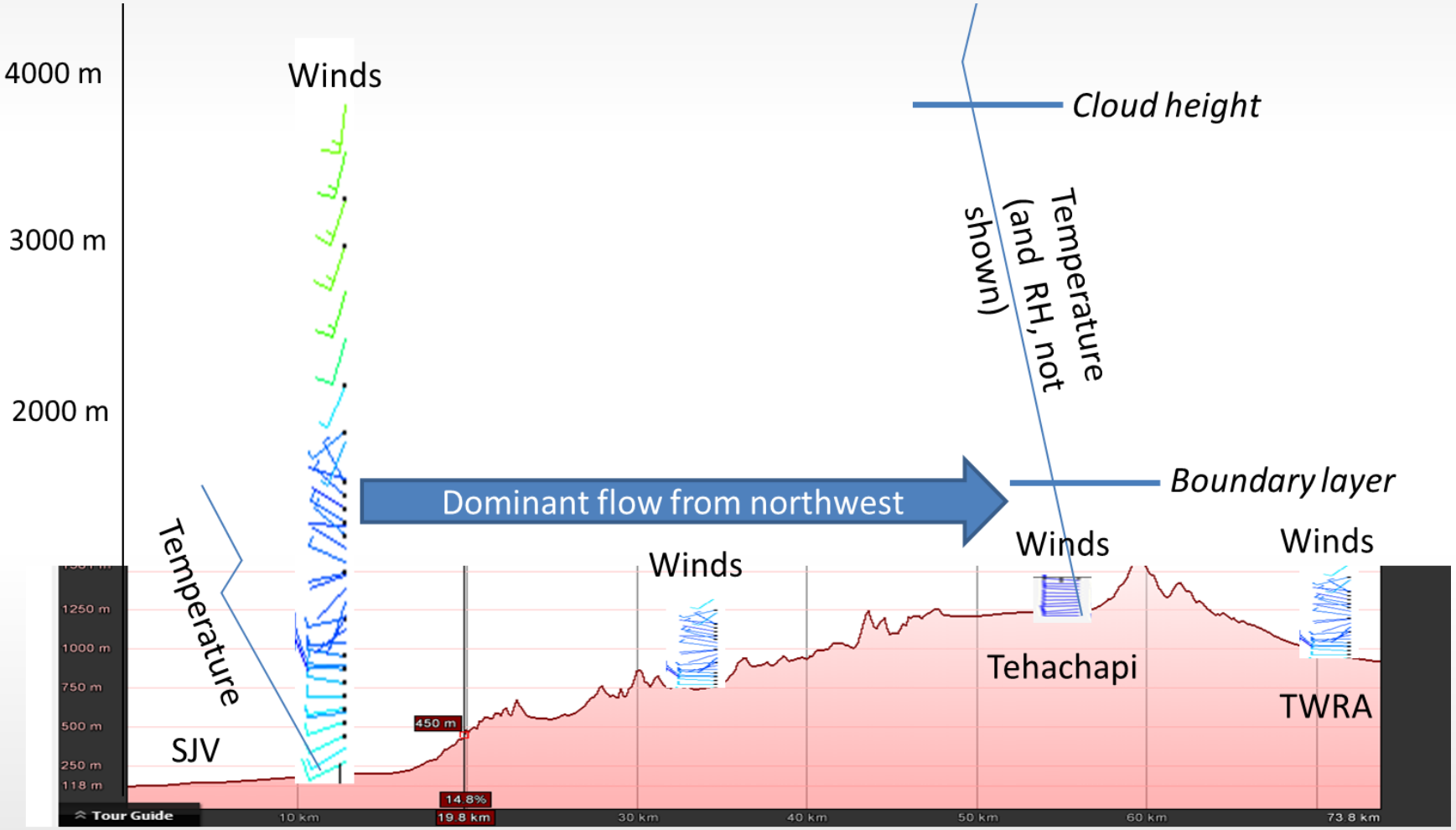
Background

- Two CEC-funded studies that involve remote sensing to improve wind forecasts in the TWRA
- Objective: Provide a robust set of meteorological data for
  - Characterizing the meteorological processes that influence lower boundary-layer winds
  - Improving short-term wind forecasts
    - Guidance for forecast NWP model improvements
    - Additional real-time input data for NWP models
    - Additional real-time input data for statistical
  - Determining "best" network
- Continued operations are funded by EPRI to help transition research to operations and expand measurements to SWRA

Research Network



Bena Landfill
RWP and RASS

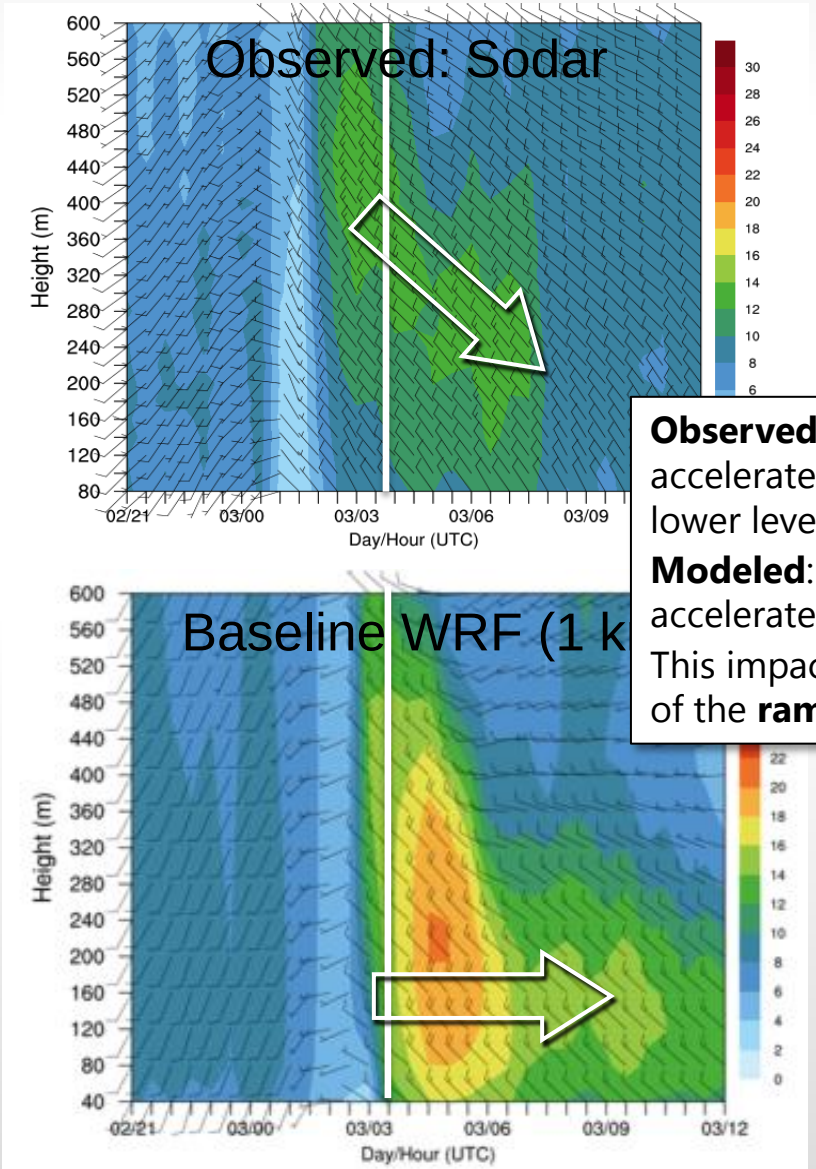
Chavez
600-m Sodar

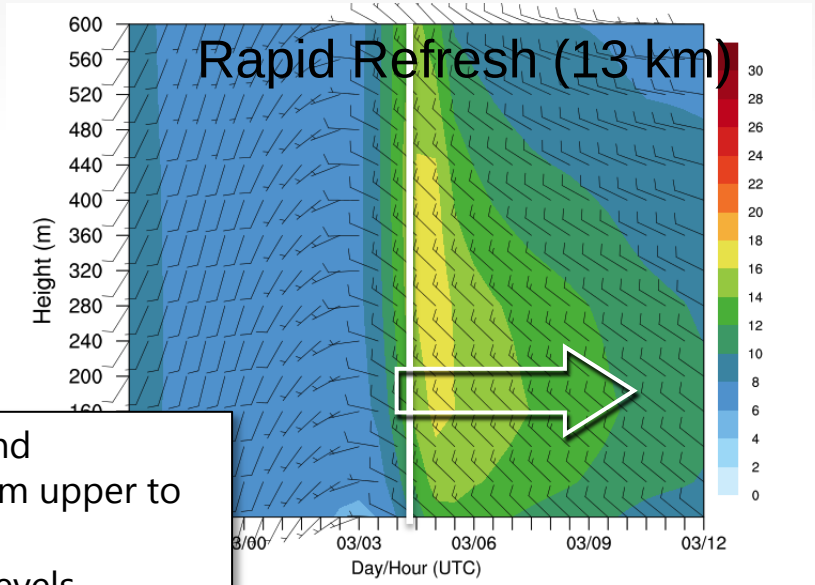
Windmatic
Radiometer,
Mini-Sodar, and
Ceilometer

Avalon
Sodar

Example of Data Use: Impact of NWP Configuration on Vertical Structure

May 2-3, 2015 Event (1108 MW/60 mins) – Avalon Sodar Site

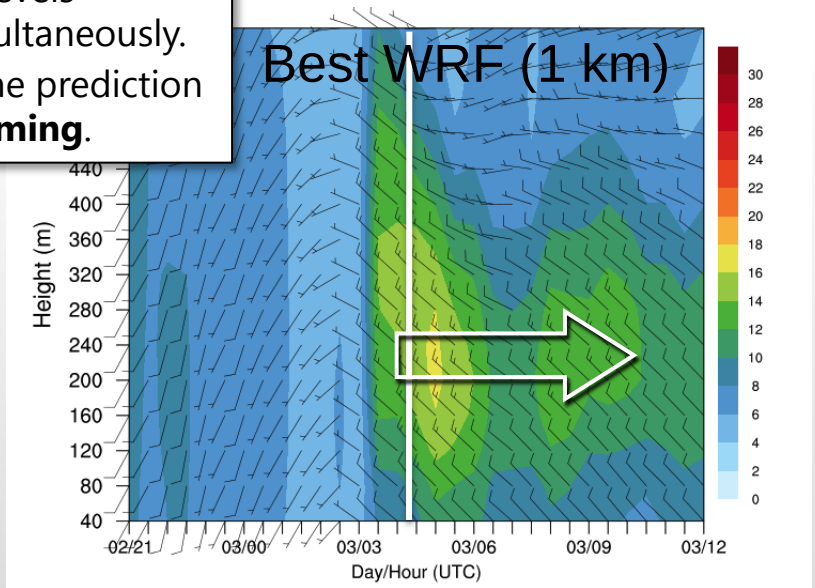




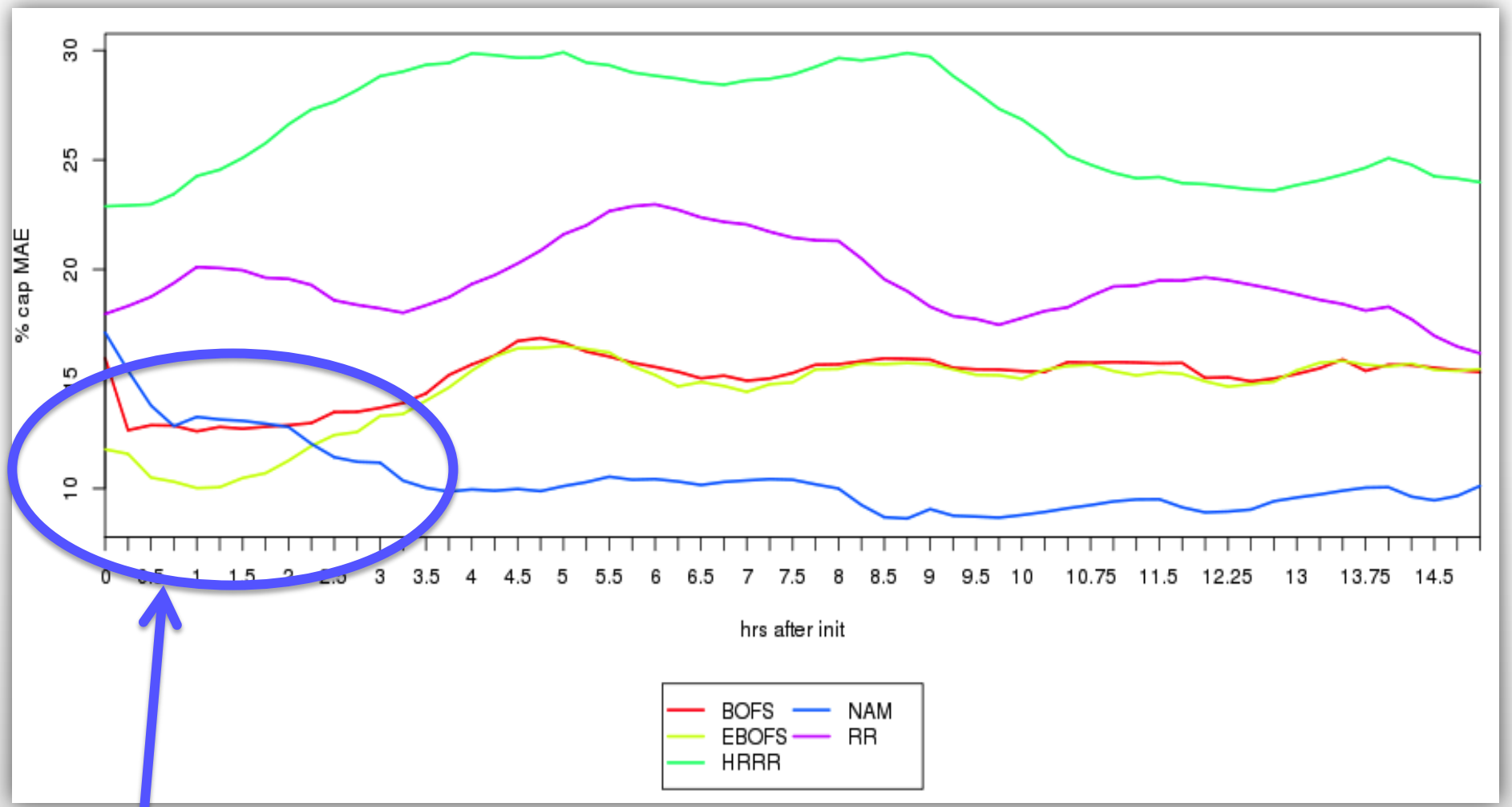
Observed: Wind accelerates from upper to lower levels.

Modeled: All levels accelerate simultaneously.

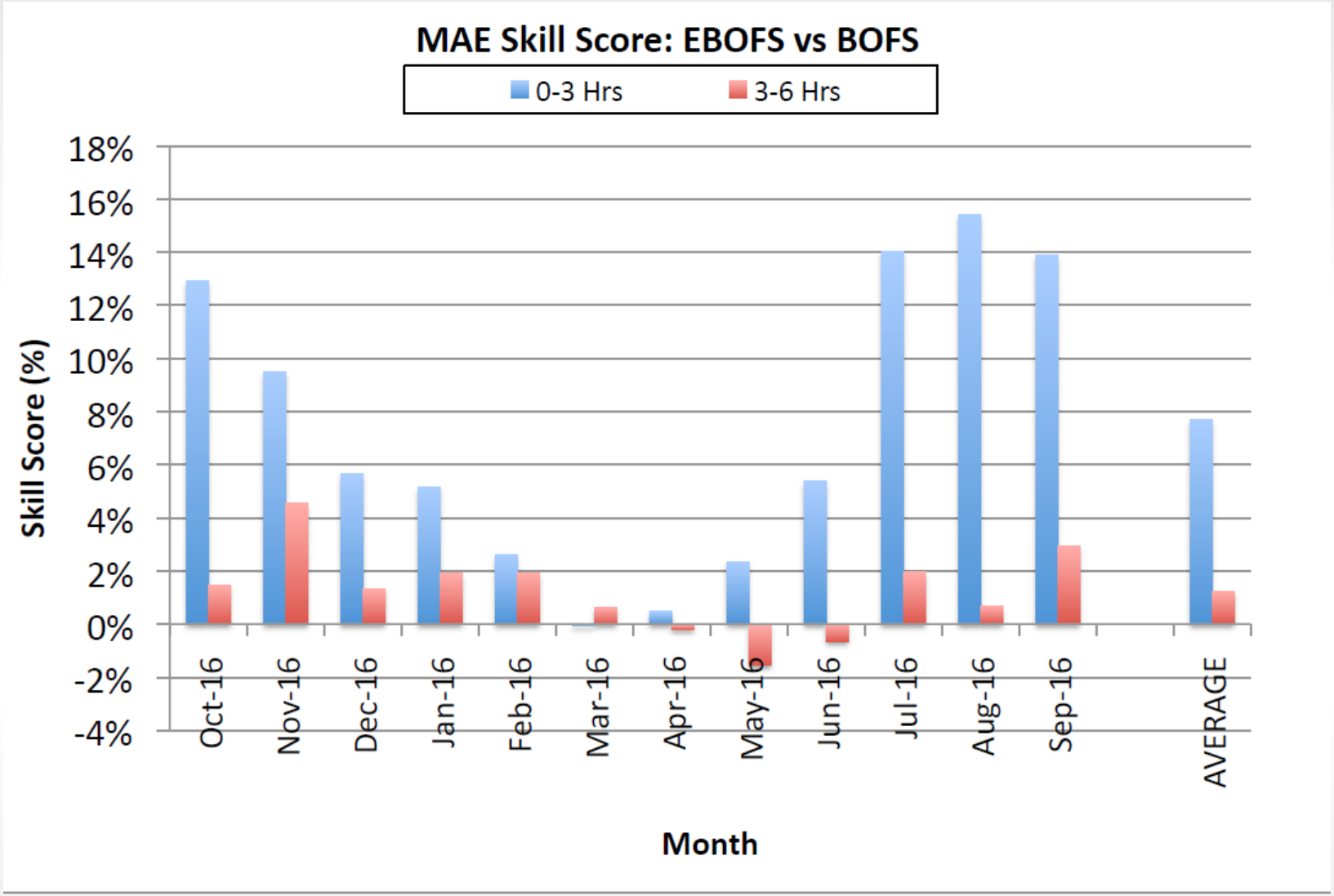
This impacts the prediction of the **ramp timing**.



Example Data Use: Preliminary Aggregated Performance, August 2016



0-2.5 hour best performance with project data assimilation (yellow line)



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